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Directive Number and Title: DOE O 252.1, Technical Standards Program

Originating Office: EH

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Background

> Why, when, and how was the order and its contractor requirements document established?

The Order was originally approved on 12/18/80 by NE as DOE Order 1300.2, "DOE Technical Standards Program" to manage dozens of Nuclear Engineering/Research and Development Technology standards being developed at the time. It was updated and expanded on 5/19/92 by EH as DOE O 1300.2A, primarily to incorporate requirements from the 1982 and 1993 revisions to OMB A-119 (on standards reporting and use). During 1999, DOE O 1300.2A was subjected to a requirements reduction review from DOE's 40+ member Technical Standards Managers' Committee, and was replaced 11/19/99 by DOE O 252.1, Technical Standards Program (TSP), which first incorporated a Contractor Requirements Document. This version also integrated requirements from Public Law 104-113 (1995) and the 1998 revision of OMB A-119, and incorporated DOE commitments made in response to Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 91-1, "Strengthen Nuclear Safety Standards Program" (and earlier MITRE reports). A plain language Guide, DOE G 252.1-1, "Technical Standards Program Guide" was issued 11/19/99 to support the Order. The Guide has no requirements and no CRD.

> What major modifications and recent updates have been made?

Federal requirements and policy from OMB A-119 (1982, 1993, 1998 revisions) and the National Technology Transfer and Advancement Act of 1995 (Public Law 104-113) have been incorporated via DOE O 1300.2A (5/19/92) and DOE O 252.1 (11/19/99). These changes implemented the Federal requirements to use voluntary consensus standards where practical and to work with Standards Development Organizations (SDOs) to develop standards, rather than develop them internally. DOE commitments made in response to DNFSB 91-1 were also incorporated into the 5/19/92 and 11/19/99 revisions. NNSA changes were reflected in the 11/19/99 revision. The Technical Standards Managers' Committee (TSMC) of the TSP changed the focus of the TSP in 1995 from the development of DOE Technical Standards to promoting the use of existing voluntary consensus standards and coordinating with SDO's, other Federal agencies, and across

DOE via DOE Topical Committees. DOE O 252.1, and a "plain language" guide, DOE G 252.1-1, both dated 11/19/99, were constructed to incorporate this approach.

Overview of Requirements

> What is the order's purpose and how is it accomplished?

For all DOE Federal elements, the Order: (1) promotes the use of voluntary consensus standards; (2) establishes a DOE Technical Standards Program (TSP) that provides infrastructure for DOE HQ, Field, and Contractors to manage standards development and maintenance and to coordinate and manage standards activities and participation essential to DOE missions and functions; (3) implements policy and requirements of Public Law 104-113 and OMB A-119 at DOE; (4) implements DNFSB 91-1 commitments to improve DOE standards management.

The purposes of the Order are accomplished through a formal and structured DOE Technical Standards Program that provides information and services essential to standards development and maintenance. A Technical Standards Program Manager operates through an Order and Guide, in conjunction with a Technical Standards Managers' Committee (TSMC), composed of a representative from each DOE HQ, Field, and Contractor organization involved in technical standards activities on behalf of DOE. The TSMC develops, approves, and maintains a strategic plan and business operating procedures (TSP Procedures) that establish agreed upon methods for developing, approving, and maintaining DOE Technical Standards, and carrying out other standards activities essential to the DOE community. The TSP charters DOE Topical Committees (currently 26) that crosscut all DOE organizations, providing a corporate memory and technical resources, and providing the means for DOE subject matter experts to review standards and to interface and coordinate with peers and counterparts in other Federal agencies, industry, and with SDOs.

> What is the CRD's purpose and how is it accomplished?

The CRD provides for contractor participation in the DOE Technical Standards Program when contractors are conducting standards activities on behalf of DOE. The CRD requires: (1) the preferential use of voluntary consensus standards; (2) use of the DOE TSP to develop DOE internal standards; (3) that contractors are provided the opportunity to participate in the TSP as their vehicle for standards review and comment, development and use; (4) that contractors participating with the TSP under DOE O 252.1 appoint a Technical Standards Manager to assist their organization and coordinate required reporting; and (5) that contractors report standards use and participation with SDOs as necessary for DOE to meet OMB and PL 104-113 reporting requirements.

These purposes are accomplished through the DOE Technical Standards Program and organizational Technical Standards Managers, as described, above, for the Order.

Analysis

> Do we still need to apply the Order to contractors?

Yes. The standards management infrastructure, functions, and services provided via the Order and the TSP (i.e., the development, maintenance, update, and use of DOE Technical Standards) are necessary for DOE and DOE contractors to conduct business. Contractor participation in the TSP and use of TSP services is active and widespread. There are about 73 DOE and contractor organizations with ongoing reportable standards activities, many of them integrated (e.g., NNSA, EM, WSRS, LANL, EH, etc.). This involves over 676 individuals working with 58 different standards development organizations in 1395 committee activities. DOE uses over 1,012 different voluntary consensus standards in multiple applications to support DOE missions and functions.

The Order, CRD, Guide and TSP Procedures provide the means for DOE to implement Federal law (PL 104-113) and Federal policy and requirements (OMB A-119) as they apply to DOE and those DOE contractors conducting standards activities on behalf of DOE. The TSP and Directives System were set up separately under the response to DNFSB 91-1 to address DOE and Contractor problems in standards management, such as nuclear technical qualifications, formality, and technical validity. If DOE significantly changes the TSP or Directives System, it may need to again demonstrate adequacy regarding DNFSB 91-1.

The Team analysis recognized some problems with the Directives System that may need future consideration.

In scope of application, the Order applies first to all DOE Federal organizations and their standards activities. Further, many DOE M&O and M&I contractors perform work for DOE that involves the development, maintenance and use of standards that directly support DOE missions and functions. These activities are construed as part of DOE Federal standards activities, and must be reported and managed under the DOE TSP. Contractors also have a vested interest in participating in the development and use of standards developed by Headquarters organizations to apply to their activities.

Standards participation and use that are not done on behalf of DOE, or in support of DOE missions and functions (i.e., as part of a contractor's non-DOE business activities), *do not* fall under the DOE TSP, and *do not* have to be tracked and reported. The participation of individuals in standards activities on their own behalf (e.g., professional association) and not related to DOE missions and functions are also outside of the scope of the TSP and Federal reporting requirements.

> If so, are there less bureaucratic approaches?

With the wide involvement noted above, and based on DOE experience and the performance of other agencies and organizations, such as DOD and the American National Standards Institute, the Technical Standards Program described in the Order is a

proven approach for DOE to manage standards activities and control standards development. About 0.2 FTE is needed to manage an active organization's standards activities, whether there is a TSP or not. The TSP Procedures and processes actually ease this burden by providing process, uniformity, and consistency. Based on feedback from the Field and Contractors, and from the membership of the DOE Technical Standards Managers' Committee, the Order is neither prescriptive nor proscriptive.

All responding contractors supported the order without CRD changes, or had no comments on the Order or CRD. We can't speak for those that didn't respond. Rather than the very limited distribution of the Order Review Process, we opened up comments to all HQ, Field, and Contractor organizations through an inquiry of the DOE Technical Standards Managers and alternates (about 80 individuals and 40 major organizations). There were no (zero) suggested changes to the existing CRD. There were no recommendations from Contractors to forward regarding changing the CRD. Further, SDOs rely heavily on (TSP-managed) participation of DOE and Contractor technical people on management committees, standards subcommittees, and writing groups.

The Order is not prescriptive nor controlling for contractors' internal management of their standards activities - it invites and incorporates participation from DOE Federal and contractor organizations through strategic planning, procedures and processes agreed upon by its constituent members. The Technical Standards Program provides a benchmark for coordination and participation among DOE and its contractors.

Combining the TSP and Directives System has been considered unfavorably as a more bureaucratic alternative approach, and, as indicated, the programs were set up to be separately managed for technical and nuclear quality considerations under the response to DNFSB 91-1. However, coordination between the Programs has been beneficial (e.g., "hotlinks" between Directives and related Technical Standards; adoption of a modified REVCOM for use with TSP review and comment systems).

> Are there any other useful changes to the contractor requirements document?

No changes to the CRD have been suggested. However, the internal review processes of the TSP's Technical Standards Manager's Committee do provide an ongoing positive feedback review of the TSP Order, Guide, Procedures, and Strategic Plan that can generate such changes as they are needed.

Summary Recommendations

ORDER:

Continue to use the Order in its present form. Allow the built in program analysis and program improvement processes combined with the broad participation of HQ, Field, and Contractors (via the TSMC) within the TSP to assess the need for changes/improvement and to implement them through existing processes. Keep the Order up to date to reflect Federal policy and requirements from OMB A-119 and PL 104-113.

Other Recommendations:

Establish a DOE corporate commercial standards service that makes a wide range of voluntary consensus standards (VCSs) available to DOE and its contractors. This would reduce overall DOE costs and would provide more standards to more personnel in DOE. This could greatly enhance the use of VCSs by DOE and its contractors. Improve coordination between the Directives System and TSP through such means as "hotlinks", reference "crosswalks," and REVCOM to make Directives and standards easier to find, access, and use. Address standards management and standards services in the DOE Strategic Plan, as do other Federal agencies and corporations, and more clearly identify the critical role of standards management in Integrated Safety Management. Improve Technical Standards Manager's screening of proposed new standards to limit development of unnecessary or duplicative DOE standards.

Minority Views

No substantial comments. The intent of OMB A-119 must be met – how this is specifically managed is not a major concern of the Office of Science.

Originating Office Comments

> Summary of concerns and statement of whether they are reflected in the Summary Recommendations. (Team Determination.)

Based on comments and Team analysis, there is a consensus to retain the DOE O 252.1 in its present form, since it implements elements of standards management required by Federal law and OMB policy, and provides critical and essential standards infrastructure, services and functions for DOE.

It is recognized, however, that other approaches to establish and achieve DOE expectations for safety policy and programs are possible and worthy of consideration. These other approaches should be developed in the context of an overall "systems analysis" review of the Directives System – analyzing strategic goals, objectives, processes, lessons learned, benchmarks, experience, cost-effectiveness, and business needs of a "Directives System" that serves DOE and enables the participation of those affected by Directives and not a discrete review of those approaches specifically for this Order.